Headlines of recent features in The Chronicle of Higher Education and The New York Times (links to stories above) tell about the transformation in teaching taking place in science classrooms around the country. Instead of relying on lectures and cookbook lab experiments, today’s classrooms are becoming increasingly interactive, student-centered, and inquiry-driven. What is so compelling about these changes is that they are spurred by scientific research on STEM education. This research consistently finds that science students taught with active learning approaches—everything from using clickers to course-based research experiences—perform better on class material, fail less frequently, and evidence improved rates of persistence in the science pipeline. Scott Freeman and colleagues confirmed these results when they recently published a 2014 meta-analysis examining data from a whopping 255 studies finding benefits of active learning across STEM disciplines.

At Smith, we have long recognized the importance of actively engaging students through rigorous coursework and student-faculty research collaborations. All around the Science Center, I see colleagues creating dynamic and animated classrooms where they actively challenge students with course material and use the questions, ideas, or data that emerge to determine how to deepen student curiosity and understanding.

What have we learned from our innovative efforts to date? One thing, for sure—this kind of transformative work is challenging. It requires energy, resources, and creativity; it requires a way of teaching different from the way so many of us (and our students) have learned. Already, our curriculum is filled with successes created by the kinds of pedagogical innovations receiving national attention. As a community, we imagine a future that pushes our classrooms toward even more active learning. Please share your ideas with me about how we can collaborate to transform our classrooms into spaces that challenge our students to develop the disciplinary expertise necessary for success in today’s complicated world.

--Patty DiBartolo
Welcome to Mentoring: Valerie Joseph

Valerie Joseph is the new AEMES Mentoring Coordinator. She comes to us from UMass where she lectured in the Legal Studies Program. She is presently a doctoral candidate in Cultural Anthropology. Valerie's commitment to identifying and addressing social and structural biases is at the core of her anthropological research, and also led her to the AEMES position. Supporting women in their academic ambitions is, in her view, an exciting mission of social justice. Valerie sees a clear connection between her research and professional work and invites everyone (seriously!) to her doctoral defense in May where they will get an introduction to the fruits of her research.

Another Great HHMI EXROP Year!

Smith nominated four students for the highly competitive EXROP summer research program at HHMI. Thank you to our nominating committee: Mary Harrington, Kalina Dimova, and Rob Dorit. This year’s nominees are:

Melody Cao, 2016
A junior, engineering and physics double major. In EXROP, she hopes to pursue her interest in the medical applications of particle physics. She plans to attend graduate school in biomedical engineering.

Jessica Morgan, 2017
A sophomore biochemistry major who also has a concentration in climate change. After graduation, she plans to enroll in an M.D./Ph.D. program.

Eirini Tsekitsidou, 2016
A junior biological sciences major who also plans a minor in neuroscience. She plans to go to graduate school and intends to have a career as a researcher.

Naina Zaman, 2016
A junior chemistry major. She plans to go to graduate school to study organic chemistry and is interested in pharmaceutical drug research and development.

We are delighted to announce that, as our newsletter was going to press, we heard that Melody, Eirini, and Naima were offered EXROP awards. Last year, only 78 students were selected for this program nationally!

IMPORTANT ANNOUNCEMENTS:

- February 2nd 2014: Chemistry department SURF pre-applications due
- February 12th 2014: “What I Thought I Saw” event, Carroll Room, 7 to 9 pm, sponsored by the SCCD
- February 16th 2014: Full SURF applications due for all students
- February 27th 2014: Brief faculty recommendations for SURF supervisees due

For more SURF details: http://www.science.smith.edu/wordpress/clarksciencecenter/student-opportunities/surf/

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